Attorney Docket No. 9400-48 (030313)   <u>PATENT</u>

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Maria Adamczyk *et al.*   Confirmation No.: 7546
Serial No.: 10/716,967   Examiner: Bates, Kevin T.
Filed: November 19, 2003   Group Art Unit: 2155
For: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR
        AUTHENTICATION OF SESSION REQUESTS FROM SERVICE PROVIDERS IN
        COMMUNICATION NETWORKS

                                               Date: July 28, 2008

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              <u>**APPELLANTS' BRIEF ON APPEAL UNDER 37 C.F.R. § 41.37**</u>

Sir:

        This Appeal Brief is filed pursuant to the "Notice of Appeal to the Board of Patent

Appeals and Interferences" filed May 8, 2008 and the "Notice of Panel Decision from Pre-

Appeal Brief Review" mailed June 20, 2008.

                            <u>**Real Party In Interest**</u>

        The real party in interest is assignee AT&T Intellectual Property I, L.P., formerly known

as BellSouth Intellectual Property Corporation, Wilmington, Delaware.

                       <u>**Related Appeals and Interferences**</u>

        Appellants are aware of no appeals or interferences that would be affected by the present

appeal.

                              <u>**Status of Claims**</u>

        Appellants appeal the final rejection of Claims 1, 3-10, 12-18, 20-26 and 28-33, which as

of the filing date of this Brief remain under consideration. The attached Appendix A presents the

claims at issue as finally rejected in the Final Office Action of February 6, 2008 (hereinafter

"Final Action").

Status of Amendments

All amendments in the present application have been entered and no amendment has been filed in the present case in response to the Final Action.

Summary of Claimed Subject Matter

The present application includes Independent Claims 1, 10, 18 and 26. Independent Claim 1 is directed to a method of managing Quality of Service (QoS) and/or bandwidth allocation in a Regional/Access Network (RAN) having a broadband access server (BRAS) that provides end-to-end transport between a Network Service Provider (NSP) and/or an Application Service Provider (ASP), and a Customer Premises Network (CPN) that includes a Routing Gateway (RG). *See, e.g.,* Specification, page 3, lines 26-31 and *e.g.* Figures 13 and 32. The method includes receiving at the RAN, a service session request from the NSP and/or the ASP including a request to establish or terminate a communication session, the NSP and/or ASP being associated with a service provider record. *See, e.g.,* Specification, page 74, lines 2-6 and Figure 33, block 3300. The NSP and/or the ASP may be authenticated based on information contained in the service provider record to provide an authentication result or a termination result. *See, e.g.,* Specification, page 74, lines 6-9 and Figure 33, block 3310. The authentication result or the termination result may be transmitted from the RAN to the NSP and/or ASP. *See, e.g.,* Specification, page 74, lines 9-10 and Figure 33, block 3320. The RAN (*See, e.g.,* Specification, page 71, line 29 to page 72, lines 2, Figure 32, block 3200) includes a digital subscriber link (DSL) network, wherein the DSL network further includes a Network Interface Protocol Handler (*See, e.g.,* Specification, page 72, lines 28-31 and Figure 32, block 3240), a DSL Service Manager (*See, e.g.,* Specification, page 72, line 31 to page 73, line 2, and Figure 32, block 3230), and a DSL Session Data Store (*See, e.g.,* Specification, page 73, lines 6-11 and Figure 32, block 3220). The service session request is received from the NSP and/or the ASP (block 3210, Figure 32) at the Network Interface Protocol Handler. *See, e.g.,* Specification, page 74, lines 11-13 and Figure 34, block 3400.

Independent Claims 10, 18 and 26 are directed to system and computer program products corresponding to the method of Claim 1. In particular, independent Claim 10 is directed to a

system for managing Quality of Service (QoS) and/or bandwidth allocation, the system including a Regional/Access Network (RAN) having a broadband access server (BRAS) that provides end-to-end transport between a Network Service Provider (NSP) and/or an Application Service Provider (ASP), and a Customer Premises Network (CPN) that includes a Routing Gateway (RG). *See, e.g.,* Specification, page 3, lines 26-31 and *e.g.* Figures 13 and 32. The RAN (Figure 32, block 3200) is configured to receive a service session request from the NSP and/or the ASP including a request to establish or terminate a communication session to authenticate the NSP and/or the ASP based on information contained in the service provider record to provide an authentication result or a termination result, and to transmit the authentication result or the termination result to the NSP and/or ASP. *See, e.g.,* Specification, page 74, lines 2-10 and Figure 33, blocks 3300, 3310 and 3320. The NSP and/or ASP is associated with a service provider record. The RAN (S*ee, e.g.,* Specification, page 71, line 29 to page 72, lines 2, Figure 32, block 3200) includes a digital subscriber link (DSL) network, wherein the DSL network further includes a Network Interface Protocol Handler (*See, e.g.,* Specification, page 72, lines 28-31 and Figure 32, block 3240), a DSL Service Manager (*See, e.g.,* Specification, page 72, line 31 to page 73, line 2, and Figure 32, block 3230), and a DSL Session Data Store(*See, e.g.,* Specification, page 73, lines 6-11 and Figure 32, block 3220). The protocol handler is configured to receive the service session request from the NSP and/or the ASP (block 3210, Figure 32). *See, e.g.,* Specification, page 74, lines 11-13 and Figure 34, block 3400.

Independent Claim 18 is directed to a system for managing Quality of Service (QoS) and/or bandwidth allocation in a Regional/Access Network (RAN) having a broadband access server (BRAS) that provides end-to-end transport between a Network Service Provider (NSP) and/or an Application Service Provider (ASP), and a Customer Premises Network (CPN) that includes a Routing Gateway (RG). *See, e.g.,* Specification, page 3, lines 26-31 and, *e.g.,* Figures 13 and 32. The system includes means for receiving at the RAN, a service session request from the NSP and/or the ASP including a request to establish or terminate a communication session, the NSP and/or ASP being associated with a service provider record. *See, e.g.,* Specification, page 74, lines 2-6 and Figure 33, block 3300. The system further includes means for authenticating the NSP and/or the ASP based on information contained in the service provider record to provide an authentication result or a termination result. *See, e.g.,* Specification, page

74, lines 6-9 and Figure 33, block 3310. The system further includes means for transmitting the authentication result or the termination result from the RAN to the NSP and/or ASP. *See, e.g.,* Specification, page 74, lines 9-10 and Figure 33, block 3320. The RAN (*See, e.g.,* Specification, page 71, line 29 to page 72, lines 2, Figure 32, block 3200) includes a digital subscriber link (DSL) network, wherein the DSL network further includes a Network Interface Protocol Handler (*See, e.g.,* Specification, page 72, lines 28-31 and Figure 32, block 3240), a DSL Service Manager (*See, e.g.,* Specification, page 72, line 31 to page 73, line 2, and Figure 32, block 3230), and a DSL Session Data Store (*See, e.g.,* Specification, page 73, lines 6-11 and Figure 32, block 3220). The service session request is received from the NSP and/or the ASP (block 3210, Figure 32) at the Network Interface Protocol Handler. *See, e.g.,* Specification, page 74, lines 11-13 and Figure 34, block 3400.

Independent Claim 26 is directed to a computer program product for managing Quality of Service (QoS) and/or bandwidth allocation in a Regional/Access Network (RAN) having a broadband access server (BRAS) that provides end-to-end transport between a Network Service Provider (NSP) and/or an Application Service Provider (ASP), and a Customer Premises Network (CPN) that includes a Routing Gateway (RG). *See, e.g.,* Specification, page 3, lines 26-31 and, *e.g.,* Figures 13 and 32. The computer program product includes a computer readable storage medium having computer readable program code embodied in the medium. The computer readable program code includes computer readable program code configured to receive at the RAN, a service session request from the NSP and/or the ASP including a request to establish or terminate a communication session, the NSP and/or ASP being associated with a service provider record. *See, e.g.,* Specification, page 74, lines 2-6 and Figure 33, block 3300. The computer program product further includes computer readable program code configured to authenticate the NSP and/or the ASP based on information contained in the service provider record to provide an authentication result or a termination result. *See, e.g.,* Specification, page 74, lines 6-9 and Figure 33, block 3310. The computer program product further includes computer readable program code configured to transmit the authentication result or the termination result from the RAN to the NSP and/or ASP. *See* Specification, page 74, lines 9-10 and Figure 33, block 3320. The RAN (*See, e.g.,* Specification, page 71, line 29 to page 72, lines 2, Figure 32, block 3200) includes a digital subscriber link (DSL) network, wherein the DSL

network further includes a Network Interface Protocol Handler (*See, e.g.*, Specification, page 72, lines 28-31 and Figure 32, block 3240), a DSL Service Manager (*See, e.g.*, Specification, page 72, line 31 to page 73, line 2, and Figure 32, block 3230), and a DSL Session Data Store (*See, e.g.*, Specification, page 73, lines 6-11 and Figure 32, block 3220). The service session request is received from the NSP and/or the ASP (block 3210, Figure 32) at the Network Interface Protocol Handler. *See, e.g.*, Specification, page 74, lines 11-13 and Figure 34, block 3400. \

Dependent Claims 3, 12, 20 and 28 are directed to wherein the service session request includes an establish service session request and wherein authenticating further includes forwarding from the Protocol Handler, the establish service session request to the DSL service manager. *See, e.g.*, Specification, page 74, lines 14-15 and Figure 34, block 3410. The DSL Session Data Store may be queried from the DSL service manager to obtain the service provider record based on a service provider identifier. *See, e.g.*, Specification, page 74, lines 16-19 and Figure 34, block 3413. Service provider credentials in the obtained service provider record may be validated at the DSL service manager. *See, e.g.*, Specification, page 74, lines 20-21 and Figure 34, block 3415. The authentication result may be generated responsive to the validation of the service provider credentials. *See, e.g.*, Specification, page 75, lines 21-22 and Figure 34, block 3417.

Dependent Claims 4, 13, 21 and 29 are directed to wherein transmitting the authentication result further comprises transmitting from the Protocol Handler, a valid authorization code to the NSP and/or the ASP if the service provider credentials are validated at the DSL service manager. *See, e.g.*, Specification, page 74, lines 23-29 and Figure 34, block 3520. An invalid authorization code may be transmitted from the Protocol Handler to the NSP and/or the ASP if the service provider credentials are not validated at the DSL service manager. *See, e.g.*, Specification, page 74, lines 23-29 and Figure 34, block 3520.

Dependent Claims 5, 14, 22 and 30 are directed to wherein the authentication result is included in a establish service session response from the RAN to the NSP and/or the ASP and wherein the establish service session response is transmitted from the Protocol Handler to the NSP and/or the ASP. *See, e.g.*, Specification, page 4, lines 22-25.

Dependent Claims 6, 15, 23 and 31 are directed to wherein the service session request comprises a terminate service session request and wherein authenticating further comprises

forwarding from the Protocol Handler, the terminate service session request to the DSL service manager. *See, e.g.,* Specification, page 74, lines 30-35, Figure 35, blocks 3500 and 3510. The DSL Session Data Store may be queried from the DSL service manager to obtain the service provider record based on a service provider identifier. *See, e.g.,* Specification, page 74, line 35 to page 75, line 4 and Figure 35, block 3513. An authorization code in the obtained service provider record is validated at the DSL service manager. *See, e.g.,* Specification, page 75, lines 5-6 and Figure 35, block 3515. The communication session associated with the authorization code may be terminated if the authorization code is validated. *See, e.g.,* Specification, page 75, lines 6-7 and Figure 35, block 3516. The termination result may be generated responsive to the validation of the authorization code. *See, e.g.,* Specification, page 75, lines 7-8 and Figure 35, block 3517.

Dependent Claims 7, 16, 24 and 32 are directed to releasing session resources associated with the terminated communication session. *See, e.g.,* Specification, page 75, line 9 and Figure 35, block 3519.

Dependent Claims 8, 17, 25 and 33 are directed to wherein transmitting the termination result comprises transmitting a terminate service session response from the Protocol Handler to the NSP and/or the ASP. *See, e.g.,* Specification, page 75, lines 9-12 and Figure 35, block 3520.

Grounds of Rejection to be Reviewed on Appeal

1.   Claims 1, 3-5, 9-10, 12-14, 18, 20-22 and 26, 28-30 stand rejected under 35 USC 103(a) as being unpatentable over the publication "DSL Evolution-Architecture Requirements for the Support of QoS-Enabled IP Services," Working Text: WT-081, Straw Ballot Revision (8) (March 2003) (hereinafter "DSL Forum") in view of United States Patent No. 7,073,055 to Freed (hereinafter "Freed"). *See* Final Action, page 2.

2.   Claims 6-8, 15-17, 23-25 and 31-33 stand rejected under 35 USC 103(a) as being unpatentable over the DSL Forum in view of Freed and in further view of United States Patent No. 6,792,457 to Zhang (hereinafter "Zhang"). *See* Final Action, page 6.

Argument

I.   Introduction to 35 U.S.C. §103 Analysis

Obviousness under 35 U.S.C. § 103 is a question of law, the resolution of which is based on the following factual inquiries: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary considerations, including evidence of commercial success, long-felt but unsolved needs, failure of others, and unexpected results. MPEP § 2141; *Graham v. John Deere Co.*, 383 U.S. 1 (1966). All words in a claim must be considered in judging the patentability of that claim against the prior art. MPEP § 2143.03 (citing *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)). If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. MPEP § 2143.03 (citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)).

Mere conclusory statements are insufficient to support a rejection for obviousness; rather, "there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Intern. Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). The Supreme Court in *KSR* observed that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR*, 127 S.Ct. at 1741. As such, the Court noted that it was "important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed, and, for that reason, the analysis regarding whether such reason existed "should be made explicit." *KSR*, 127 S.Ct. at 1731. A corollary principle is that, when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be unobvious. *Id.* at 1740.

Appellants respectfully submit that the pending claims are patentable over the cited references because the cited references, alone or in combination, fail to disclose or suggest the recitations of the pending claims.

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II. Claims 1, 3-5, 9-10, 12-14, 18, 20-22 and 26, 28-30 are Patentable over the Cited References

A. Independent Claims 1, 10, 18 and 26 are Patentable over the Cited References

Appellants respectfully submit that many of the recitations of the independent claims are neither disclosed nor suggested by the cited references for at least the reasons discussed herein. For example, Claim 1 recites:

> A method of managing Quality of Service (QoS) and/or bandwidth allocation in a Regional/Access Network (RAN) having a broadband access server (BRAS) that provides end-to-end transport between a Network Service Provider (NSP) and/or an Application Service Provider (ASP), and a Customer Premises Network (CPN) that includes a Routing Gateway (RG), comprising:
> **receiving at the RAN**, a service session request from the NSP and/or the ASP including **a request to establish or terminate** a communication session, the NSP and/or ASP being associated with a service provider record;
> authenticating the NSP and/or the ASP based on information contained in the service provider record to provide **an authentication result or a termination result**; and
> **transmitting from the RAN, the authentication result or the termination result to the NSP and/or ASP,**
> **wherein the RAN comprises a digital subscriber link (DSL) network;**
> **wherein the DSL network further includes a Network Interface Protocol Handler, a DSL Service Manager, and a DSL Session Data Store; and**
> **wherein receiving a service session request from the NSP and/or the ASP comprises receiving the service session request at the Network Interface Protocol Handler.**

Independent Claims 10, 18 and 26 contain similar recitations to the highlighted recitations of Claim 1. Appellants respectfully submit that at least the highlighted recitations of Claim 1 are neither disclosed nor suggested by the cited combination for at least the reasons discussed herein.

The Final Action admits that the DSL Forum does not explicitly indicate the receiving authenticating and transmitting recitations of Claim 1. However, the Final Action points to Freed as providing the missing teachings. *See* Final Action, page 3. In particular, the Final Action states that Freed teaches a Service network (Abstract) that includes a DSL connection..." *See* Final Action, page 3. In fact, Freed discusses the use of cable television services to connect to the internet, not DSL. *See* Figure 1 of Freed, cable modem system. The Background of Freed even portrays DSL as less desirable than cable. *See* Freed, column 1, lines 35-46. Furthermore, the cited portions of Freed discuss a remote authentication dial-in user service (RADIUS) that

provides a means that allows Internet Service Providers to authenticate a user and then return all configuration information necessary for the Internet Service Provider to provide network services to the user. *See* Freed, column 3, lines 21-25.

In stark contrast, Claim 1 recites a method of managing QoS and/or bandwidth allocation in a RAN (DSL network) that is configured to receive, authenticate and transmit as recited in Claim 1. As discussed above, Freed discusses a cable system, so by definition, Freed does not discuss receiving and authenticating at and transmitting from the DSL network. In particular, nothing in Freed discloses or suggests authenticating the NSP and/or the ASP based on information contained in the service provider record to provide an authentication result or a termination result; transmitting from the RAN, the authentication result or the termination result to the NSP and/or ASP, the DSL network including a Network Interface Protocol Handler, a DSL Service Manager, and a DSL Session Data Store and wherein receiving a service session request from the NSP and/or the ASP comprises receiving the service session request at the Network Interface Protocol Handler as recited in Claim 1. Accordingly, Claim 1 and the claims that depend therefrom are patentable over the cited combination for at least the reasons discussed herein.

Furthermore, nothing in the DSL Forum and/or Freed discloses or suggests the request to terminate or the termination request as recited in Claim 1. In fact, the Final Action admits that the DSL Forum and Freed lack these teachings. *See* Final Action, page 7. Accordingly, Appellants respectfully submit that amended independent Claim 1 is patentable over the cited combination for at least these additional reasons.

Appellants further submit that one of skill in the art would not be motivated to combine the cited references as suggested in the Final Action. The DSL Forum discusses the DSL standard and details thereof. Freed, on the other hand, discusses a cable system. As discussed above, the background of Freed implies that the bandwidths provided by DSL are inferior to cable. One of skill in the art would not be motivated to combine the teachings found in the DSL Forum with the cable reference of Freed as suggested in the Final Action for at least these reasons.

Accordingly, Appellants respectfully submit that independent Claims 1, 10 18 and 26 and the claims that depend therefrom are patentable over the cited combination for at least the reasons discussed above.

B.   Dependent Claims 3-5, 12-14, 20-22 and 28-30 are separately Patentable over the Cited References

As discussed above, the dependent claims are patentable over the cited combination at least per the patentability of the independent base claims from which they depend. However, many of the dependent claims are also separately patentable. For example, dependent Claim 3 recites, in part:

> **wherein the service session request comprises an establish service session request and wherein authenticating further comprises:**
> forwarding **from the Protocol Handler,** the establish service session request to **the DSL service manager;**
> **querying from the DSL service manager, the DSL Session Data Store** to obtain the service provider record based on a service provider identifier;
> **validating at the DSL service manager,** service provider credentials in the obtained service provider record; and
> generating the authentication result responsive to the validation of the service provider credentials.

Dependent Claims 12, 20 and 28 contain similar recitations. Appellants respectfully submit that many of the recitations of Claims 3, 12, 20 and 28 are neither disclosed nor suggested by the cited combination. In particular, the Final Action admits that the DSL Forum does not teach the recitations of Claims 3, 12, 20 and 28, but points to Freed as providing the missing teachings. *See* Final Action, page 4. As illustrated by the highlighted recitations of Claim 3 set out above, the recitations of Claim 3 recite specific aspects of a DSL system, for example, protocol handler, DSL service manager and the like. As discussed above with respect to the independent claims, Freed discusses a cable system and teaches away from a DSL system. Accordingly, Appellants submit that dependent Claims 3, 12, 20 and 28 are separately patentable for at least the additional reasons discussed herein.

Similarly, the Final Action points to Freed as providing the teachings of dependent Claims 4, 5, 13, 14, 21, 22, 29 and 30. *See* Final Action, pages 5-6. Appellants respectfully

submit that dependent Claims 4, 5, 13, 14, 21, 22, 29 and 30 are separately patentable for at least the similar reasons to those discussed above with respect to Claims 3, 12, 20 and 28.

III. Dependent Claims 6-8, 15-17, 23-25 and 31-33 are Separately Patentable over the Cited References

Claims 6-8, 15-17, 23-25 and 31-33 stand rejected under 35 USC 103(a) as being unpatentable over the DSL Forum in view of Freed and in further view of United States Patent No. 6,792,457 to Zhang (hereinafter "Zhang"). *See* Final Action, page 7. As discussed above, the dependent claims are patentable over the cited combination at least per the patentability of the independent base claims from which they depend. However, many of the dependent claims are also separately patentable.

For example, dependent Claims 6-8, 15-17, 23-25 and 31-33 recite details of the termination of a session according to some embodiments of the present invention. The Final Action admits that these teachings are absent from the DSL Forum and Freed, but points to Zhang as providing the missing teachings. *See* Final Action, pages 6-8. Appellants respectfully disagree.

In particular, Zhang discusses methods and systems that allow ISPs to provide detailed billing information. *See* Zhang, column 2, lines 15-18. As discussed above, dependent Claims 6-8, 15-17, 23-25 and 31-33 recite details of the termination of a session in a DSL system and specifically recite components of the DSL system involved, for example, DSL service manager, the DSL Session Data Store and the like. Nothing in Zhang discloses or suggests these specific recitations of the dependent claims.

Appellants further submit that one of skill in the art would not be motivated to combine the cited references as suggested in the Final Action. The DSL Forum discusses the DSL standard and details thereof, Freed discusses a cable system and Zhang discusses methods and systems that capture information for accounting purposes (Zhang Abstract). One of skill in the art would not be motivated to combine the teachings found in the DSL Forum, Freed and Zhang as suggested in the Final Action, unless Appellants' disclosure was used as a road map for the combination. Accordingly, Appellants respectfully submit that dependent Claims 6-8, 15-17, 23-

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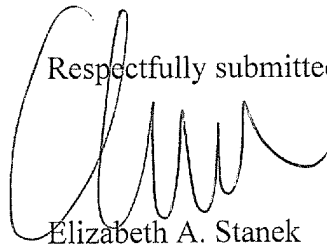Serial No.: 10/716,967
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25 and 31-33 are separately patentable over the cited referenced for at least the additional reasons discussed herein.

VIII. <u>Conclusion</u>

In light of the above discussion, Appellants submit that the pending claims are directed to patentable subject matter and are patentable over the cited references and, therefore, Appellants request reversal of the rejections of those claims and passing of the application to issue.

It is not believed that an extension of time and/or additional fee(s) are required, beyond those that may otherwise be provided for in documents accompanying this paper. In the event, however, that an extension of time is necessary to allow consideration of this paper, such an extension is hereby petitioned for under 37 C.F.R. §1.136(a). Any additional fees believed to be due in connection with this paper may be charged to Deposit Account No. 50-0220.
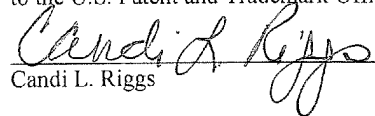
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APPENDIX A – Claims

1.   (Previously Presented) A method of managing Quality of Service (QoS) and/or bandwidth allocation in a Regional/Access Network (RAN) having a broadband access server (BRAS) that provides end-to-end transport between a Network Service Provider (NSP) and/or an Application Service Provider (ASP), and a Customer Premises Network (CPN) that includes a Routing Gateway (RG), comprising:

receiving at the RAN, a service session request from the NSP and/or the ASP including a request to establish or terminate a communication session, the NSP and/or ASP being associated with a service provider record;

authenticating the NSP and/or the ASP based on information contained in the service provider record to provide an authentication result or a termination result; and

transmitting from the RAN, the authentication result or the termination result to the NSP and/or ASP,

wherein the RAN comprises a digital subscriber link (DSL) network;

wherein the DSL network further includes a Network Interface Protocol Handler, a DSL Service Manager, and a DSL Session Data Store; and

wherein receiving a service session request from the NSP and/or the ASP comprises receiving the service session request at the Network Interface Protocol Handler.

2.   (Cancelled).

3.   (Previously Presented) The method of Claim 1, wherein the service session request comprises an establish service session request and wherein authenticating further comprises:

forwarding from the Protocol Handler, the establish service session request to the DSL service manager;

querying from the DSL service manager, the DSL Session Data Store to obtain the service provider record based on a service provider identifier;

validating at the DSL service manager, service provider credentials in the obtained service provider record; and

generating the authentication result responsive to the validation of the service provider credentials.

4.   (Original) The method of Claim 3 wherein transmitting the authentication result further comprises:

transmitting from the Protocol Handler, a valid authorization code to the NSP and/or the ASP if the service provider credentials are validated at the DSL service manager; and

transmitting from the Protocol Handler, an invalid authorization code to the NSP and/or the ASP if the service provider credentials are not validated at the DSL service manager.

5.   (Original) The method of Claim 4 wherein the authentication result is included in a establish service session response from the RAN to the NSP and/or the ASP and wherein the establish service session response is transmitted from the Protocol Handler to the NSP and/or the ASP.

6.   (Previously Presented) The method of Claim 1, wherein the service session request comprises a terminate service session request and wherein authenticating further comprises:

forwarding from the Protocol Handler, the terminate service session request to the DSL service manager;

querying from the DSL service manager, the DSL Session Data Store to obtain the service provider record based on a service provider identifier;

validating at the DSL service manager, an authorization code in the obtained service provider record;

terminating the communication session associated with the authorization code if the authorization code is validated; and

generating the termination result responsive to the validation of the authorization code.

7.   (Original) The method of Claim 6, further comprising releasing session resources associated with the terminated communication session.

8.   (Original) The method of Claim 6 wherein transmitting the termination result comprises transmitting a terminate service session response from the Protocol Handler to the NSP and/or the ASP.

9.   (Original) The method of Claim 1 wherein the service provider record comprises a service provider record maintained at the NSP that identifies the NSP, a service provider record maintained at the ASP that identifies the ASP and/or corresponding service provider records maintained at the RAN that identify the NSP and/or the ASP.

10.   (Previously Presented) A system for managing Quality of Service (QoS) and/or bandwidth allocation, comprising:

a Regional/Access Network (RAN) having a broadband access server (BRAS) that provides end-to-end transport between a Network Service Provider (NSP) and/or an Application Service Provider (ASP), and a Customer Premises Network (CPN) that includes a Routing Gateway (RG), the RAN being configured to receive a service session request from the NSP and/or the ASP including a request to establish or terminate a communication session, the NSP and/or ASP being associated with a service provider record, to authenticate the NSP and/or the ASP based on information contained in the service provider record to provide an authentication result or a termination result, and to transmit the authentication result or the termination result to the NSP and/or ASP,

wherein the RAN comprises a digital subscriber link (DSL) network;

wherein the DSL network further includes an Network Interface Protocol Handler, a DSL Service Manager, and a DSL Session Data Store; and

wherein the Protocol Handler is configured to receive the service session request from the NSP and/or the ASP.

11.   (Cancelled).

12.   (Previously Presented) The system of Claim 10, wherein the service session request comprises an establish service session request, wherein the Protocol Handler is further configured to forward the establish service session request to the DSL service manager, wherein the DSL service manager is configured to query the DSL Session Data Store to obtain a service provider record based on a service provider identifier, validate service provider credentials in the obtained service provider record, and generate the authentication result responsive to the validation of the service provider credentials.

13.   (Original) The system of Claim 12, wherein the Protocol Handler is further configured to transmit a valid authorization code to the NSP and/or the ASP if the service provider credentials are validated and transmit an invalid authorization code to the NSP and/or the ASP if the service provider credentials are not validated.

14.   (Original) The system of Claim 13 wherein the authentication result is included in a establish service session response from the RAN to the NSP and/or the ASP and wherein the Protocol handler is further configured to transmit the establish service session response to the NSP and/or the ASP.

15.   (Previously Presented) The system of Claim 10, wherein the service session request comprises a terminate service session request, wherein the Protocol Handler is further configured to forward the terminate service session request to the DSL service manager, wherein the DSL service manager is configured to query the DSL Session Data Store to obtain the service provider record based on a service provider identifier, wherein the DSL service manager is configured to validate an authorization code in the obtained service provider record, terminate the communication session associated with the authorization code if the authorization code is validated and generate the termination result responsive to the validation of the authorization code.

16.   (Original) The system of Claim 15, wherein the DSL service manager is further configured to release session resources associated with the terminated communication session.

17.   (Original) The system of Claim 16 wherein the Protocol handler is further configured to transmit a terminate service session response to the NSP and/or the ASP.

18.   (Previously Presented) A system for managing Quality of Service (QoS) and/or bandwidth allocation in a Regional/Access Network (RAN) having a broadband access server (BRAS) that provides end-to-end transport between a Network Service Provider (NSP) and/or an Application Service Provider (ASP), and a Customer Premises Network (CPN) that includes a Routing Gateway (RG), comprising:

means for receiving at the RAN, a service session request from the NSP and/or the ASP including a request to establish or terminate a communication session, the NSP and/or ASP being associated with a service provider record;

means for authenticating the NSP and/or the ASP based information contained in the service provider record to provide an authentication result or a termination result; and

means for transmitting from the RAN the authentication result or the termination result to the NSP and/or ASP,

wherein the RAN comprises a digital subscriber link (DSL) network;

wherein the DSL network further includes an Network Interface Protocol Handler, a DSL Service Manager, and a DSL Session Data Store; and

wherein the means for receiving at the RAN, a service session request from the NSP and/or the ASP comprises means for receiving at the Protocol Handler the service session request.

19.   (Cancelled).

20.   (Previously Presented) The system of Claim 18, wherein the service session request comprises an establish service session request and wherein the means for authenticating further comprises:

means for forwarding from the Protocol Handler, the establish service session request to the DSL service manager;

means for querying from the DSL service manager, the DSL Session Data Store to obtain the

service provider record based on a service provider identifier;

means for validating at the DSL service manager, service provider credentials in the

obtained service provider record; and

means for generating the authentication result responsive to the validation of the service

provider credentials.

21.   (Original) The system of Claim 20 wherein the means for transmitting the authentication result further comprises:

means for transmitting from the Protocol Handler, a valid authorization code to the NSP and/or the ASP if the service provider credentials are validated at the DSL service manager; and

means for transmitting from the Protocol Handler, an invalid authorization code to the NSP and/or the ASP if the service provider credentials are not validated at the DSL service manager.

22.   (Original) The system of Claim 21 wherein the authentication result is included in a establish service session response from the RAN to the NSP and/or the ASP and wherein the establish service session response is transmitted from the Protocol Handler to the NSP and/or the ASP.

23.   (Previously Presented) The system of Claim 18 wherein the service session request comprises a terminate service session request and wherein the means for authenticating further comprises:

means for forwarding from the Protocol Handler, the terminate service session request to the DSL

service manager;

means for querying from the DSL service manager, the DSL Session Data Store to obtain the service provider record based on a service provider identifier;

means for validating at the DSL service manager, an authorization code in the obtained service provider record;

means for terminating the communication session associated with the authorization code if the authorization code is validated; and

means for generating the termination result responsive to the validation of the authorization code.

24.   (Original) The system of Claim 23, further comprising means for releasing session resources associated with the terminated communication session.

25.   (Original) The system of Claim 24 wherein the means for transmitting the termination result comprises transmitting a terminate service session response from the Protocol Handler to the NSP and/or the ASP.

26.   (Previously Presented) A computer program product for managing Quality of Service (QoS) and/or bandwidth allocation in a Regional/Access Network (RAN) having a broadband access server (BRAS) that provides end-to-end transport between a Network Service Provider (NSP) and/or an Application Service Provider (ASP), and a Customer Premises Network (CPN) that includes a Routing Gateway (RG), comprising:

a computer readable storage medium having computer readable program code embodied in the medium, the computer readable program code comprising:

computer readable program code that receives at the RAN, a service session request from the NSP and/or the ASP including a request to establish or terminate a communication session, the NSP and/or ASP being associated with a service provider record;

computer readable program code that authenticates the NSP and/or the ASP based information contained in the service provider record to provide an authentication result or a termination result; and

computer readable program code that transmits from the RAN the authentication result or the termination result to the NSP and/or ASP,

wherein the RAN comprises a digital subscriber link (DSL) network;

wherein the DSL network further includes an Network Interface Protocol Handler, a DSL Service Manager, and a DSL Session Data Store; and

wherein the computer readable program code that receives at the RAN, a establish service session request from the NSP and/or the ASP comprises computer readable program code that receives at the Protocol Handler the service session request.

27.   (Cancelled).

28.   (Previously Presented) The computer program product of Claim 26, wherein the service session request comprises an establish service session request and wherein the computer readable program code that authenticates further comprises:

computer readable program code that forwards from the Protocol Handler, the establish service session request to the DSL service manager;

computer readable program code that queries from the DSL service manager, the DSL Session Data Store to obtain the service provider record based on a service provider identifier;

computer readable program code that validates at the DSL service manager, service provider credentials in the obtained service provider record; and

computer readable program code that generates the authentication result responsive to the validation of the service provider credentials.

29.   (Original) The computer program product of Claim 28 wherein the computer readable program code that transmits the authentication result further comprises:

computer readable program code that transmits from the Protocol Handler, a valid authorization code to the NSP and/or the ASP if the service provider credentials are validated at the DSL service manager; and

computer readable program code that transmits from the Protocol Handler, an invalid authorization code to the NSP and/or the ASP if the service provider credentials are not validated at the DSL service manager.

30.   (Original) The computer program product of Claim 29 wherein the authentication result is included in a establish service session response from the RAN to the NSP and/or the ASP and wherein the computer readable program code that transmits the establish service session response comprises computer readable program code that transmits the establish service session response from the Protocol Handler to the NSP and/or the ASP.

31.   (Previously Presented) The computer program product of Claim 26, wherein the service session request comprises a terminate service session request and wherein the computer readable program code that authenticates further comprises:

computer readable program code that forwards from the Protocol Handler, the terminate service session request to the DSL service manager;

computer readable program code that queries from the DSL service manager, the DSL Session Data Store to obtain the service provider record based on a service provider identifier;

computer readable program code that validates at the DSL service manager, an authorization code in the obtained service provider record;

computer readable program code that terminates the communication session associated with the authorization code if the authorization code is validated; and

computer readable program code that generates the termination result responsive to the validation of the authorization code.

32.   (Original) The computer program product of Claim 31 further comprising computer readable program code that releases session resources associated with the terminated communication session.

33.   (Original) The computer program product of Claim 32 wherein the computer readable program code that transmits the termination result comprises computer readable program code that transmits a terminate service session response from the Protocol Handler to the NSP and/or the ASP.

APPENDIX B – EVIDENCE APPENDIX

None

APPENDIX C – RELATED PROCEEDINGS APPENDIX

None.